

REMARKS

Favorable reconsideration of the application is respectfully requested in light of the amendments and remarks herein.

Upon entry of this amendment, claims 1-10 will be pending. By this amendment, claims 1, 6, and 7 have been amended; and claims 8-10 have been added. No new matter has been added.

§102 Rejection of Claims 1, 4, 6, and 7

In Section 1 of the Office Action, the Examiner has rejected claims 1, 4, 6, and 7 under 35 U.S.C. §103(a) as being unpatentable over Verboom *et al.* (U.S. Patent No. 5,574,706; hereinafter referred to as “Verboom”) in view of Nakagawa *et al.* (U.S. Patent No. 5,986,592; hereinafter referred to as “Nakagawa”). Claims 1, 6, and 7 have been amended to clarify the claim terms.

In the Background section of the Specification, it was disclosed that “[c]auses generating a focal discrepancy in focusing control include a steady-state deviation due to a residual left at a servo time, a shift in focal-point position due to variations in plate thickness from disc to disc and a variation in offset due to an increase in temperature inside a disk drive setting the disc.”

Background of the Specification, page 4, lines 18-23.

“In moving the optical pickup making an access to the disc to the correction area to carry out a correction, however, there is raised a problem that the recording or playback operation must be temporarily suspended. In order to solve this problem in a case wherein data must be processed in a real-time manner, it is necessary to provide the recording and playback apparatus with additional components such as a buffer for temporarily storing data to be processed during

the correction. The necessity to provide the recording and playback apparatus with additional components such as a buffer for facilitating a correction raises another problem of a more complex configuration of the recording and playback apparatus.” *Background of the Specification, page 6, line 19 to page 7, line 8.*

To solve the above-stated problem, embodiments of the present invention provide a capability “to shorten the time it takes to carry out a correction in focusing control by execution of the correction with a predetermined timing by moving an optical pickup to a location, [where] data has already been recorded at and is closest to a current position of the optical pickup in a recording or playback operation being carried out, and using an RF signal [obtained from] the data already recorded at the closest location.” *Specification, page 7, lines 12-20.*

For example, the structure of apparatus claim 1, as presented herein, includes:

“*judgment means* for forming a judgment as to whether or not to correct focus precision in an operation to record data onto an Nth track of said recording medium or play back data from said Nth track; and

correction means which is used for correcting said focus precision if said judgment means forms a judgment to correct said focus precision in said operation to record data onto said Nth track of said recording medium or play back data from said Nth track by using an RF signal obtained from an already recorded track closest to said Nth track,

wherein said correcting said focus precision can be performed quickly because acquisition of RF signal from an already recorded track closest to said Nth track enables said correction to be performed without actually moving to said Nth track.”

(emphasis added)

The correction means, in claim 1, for correcting the focus precision by using an RF signal obtained from an already recorded track closest to the current track is supported in the Detailed Description Section as follows:

“In addition, by playing back the existing data, an RF signal can be obtained. In this embodiment, focus precision is corrected by using an RF signal representing data recorded on a track preceding the current location of the optical pickup 17 on the optical disk 11 by 1 track.”
Specification, page 19, lines 16-21.

“The RF signal represents data read out by the optical pickup 17 from the position of the controlled focus on the optical disk 11.” *Specification, page 21, lines 3-6.*

“Then, at this focal position, an RF signal representing data read out by the optical pickup 17 from the optical disk 11 is supplied to the performance-function-value computation circuit 25 by way of the APC circuit 16. The performance-function-value computation circuit 25 computes a performance-function value $F(f_d + a)$ based on the jitters value or the amplitude which is extracted from the RF signal.” *Specification, page 23, lines 6-13.*

Therefore, embodiments of the present invention achieve quick correction of the focus precision because the pickup does not have to be moved to where the information is recorded (i.e., the Nth track).

Although it was indicated in the Office Action that Verboom discloses a recording and playback apparatus including a correction means to correct the focus precision, it is respectfully submitted that Verboom, however, fails to teach or suggest correcting the focus precision by using an RF signal obtained from an already recorded track closest to said Nth track, wherein correcting the focus precision can be performed quickly because acquisition of RF signal from an already recorded track closest to the Nth track enables the correction to be performed without actually moving to the Nth track.

Verboom indicates that it uses the Standard Format Part (SFP) track, which includes information about the format of the disc. Thus, it can be inferred that Verboom uses the signal

from the SFP track as “data” rather than reading it as a raw RF signal. Further, there is no indication in Verboom that Verboom’s reference to “the focus-offset value for the SFP track nearest the track to be read is selected from the stored values” is in any way connected to enabling “the correction to be performed without actually moving to the Nth track.”

It was also indicated that Nakagawa fails to teach or suggest all the limitations of claim 1. Therefore, Verboom and Nakagawa, individually or in combination, fail to teach or suggest all the limitations of claim 1.

Based on the foregoing discussion, it is maintained claim 1 should be allowable over the combination of Verboom and Nakagawa. Furthermore, since independent claims 6 and 7 closely parallel, and include substantially similar limitations as, independent claim 1, claims 6 and 7 should also be allowable over the combination of Verboom and Nakagawa. Since claim 4 depend from claim 1, and claim 4 should also be allowable over the combination of Verboom and Nakagawa.

Accordingly, it is submitted that the Examiner’s rejection of claims 1, 4, 6, and 7 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

§103 Rejection of Claim 2

In Section 2 of the Office Action, the Examiner has rejected claim 2 under 35 U.S.C. §103(a) as being unpatentable over Verboom in view of Nakagawa, and further in view of Niwayama (U.S. Patent No. 5,485,443).

Based on the foregoing discussion regarding claim 1, and since claim 2 depends from claim 1, claim 2 should be allowable over the combination of Verboom and Nakagawa. Further,

in Section 2 of the Office Action, it was indicated that Niwayama discloses a judgement means. Thus, Niwayama fails to teach or suggest correcting the focus precision by using an RF signal obtained from an already recorded track closest to said Nth track, wherein correcting the focus precision can be performed quickly because acquisition of RF signal from an already recorded track closest to the Nth track enables the correction to be performed without actually moving to the Nth track. Therefore, Verboom, Nagakawa, and Niwayama, in combination or individually, fail to teach or suggest the limitations recited in claim 2.

Accordingly, it is submitted that the Examiner's rejection of claim 2 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

§103 Rejection of Claim 3

In Section 3 of the Office Action, the Examiner has rejected claim 3 under 35 U.S.C. §103(a) as being unpatentable over Verboom in view of Nakagawa, and further in view of Koyama *et al.* (U.S. Patent No. 5,517,475; hereinafter referred to as "Koyama").

Based on the foregoing discussion regarding claim 1, and since claim 3 depends from claim 1, claim 3 should be allowable over the combination of Verboom and Nakagawa. Further, in Section 3 of the Office Action, it was indicated that Koyama discloses a judgment means. Thus, Koyama fails to teach or suggest correcting the focus precision by using an RF signal obtained from an already recorded track closest to said Nth track, wherein correcting the focus precision can be performed quickly because acquisition of RF signal from an already recorded track closest to the Nth track enables the correction to be performed without actually moving to the Nth track. Therefore, Verboom, Nakagawa, and Koyama, in combination or individually,

fail to teach or suggest the limitations recited in claim 3.

Accordingly, it is submitted that the Examiner's rejection of claim 3 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

§103 Rejection of Claim 5

In Section 4 of the Office Action, the Examiner has rejected claim 5 under 35 U.S.C. §103(a) as being unpatentable over Verboom in view of Nakagawa, and further in view of Tani *et al.* (U.S. Patent No. 6,574,177; hereinafter referred to as "Tani").

Based on the foregoing discussion regarding claim 1, and since claim 5 depends from claim 1, claim 5 should be allowable over the combination of Verboom and Nakagawa. Further, in Section 4 of the Office Action, it was indicated that Tani discloses "a correction means capable of correcting said focus precision by determining a focus bias value that provides the absolute value of a difference within a threshold value k ". Thus, Tani fails to teach or suggest correcting the focus precision by using an RF signal obtained from an already recorded track closest to said Nth track, wherein correcting the focus precision can be performed quickly because acquisition of RF signal from an already recorded track closest to the Nth track enables the correction to be performed without actually moving to the Nth track. Therefore, Verboom, Nakagawa, and Tani, in combination or individually, fail to teach or suggest the limitations recited in claim 5.

Accordingly, it is submitted that the Examiner's rejection of claim 5 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

Newly-added Claims 8-10

Newly added claims 8-10 depend from claim 1.

Claims 8-10 have been added to more particularly define the use of the raw RF signal as a function to correct the focus precision. In particular, either the amplitude or the jitter value of the RF signal is used to compute the function, which is used to correct the focus precision. These limitations of claims 8-10 are supported in the Specification, page 20, line 23 to page 21, line 3.

The cited prior art references, including Verboom, use “data” to correct the focus precision. In contrast, embodiments of the present invention, as claimed in claims 8-10, use the characteristics of the raw RF signal such as the performance function based on the amplitude or the jitter value of the RF signal to correct the focus precision.

Based on the foregoing discussion, claims 8-10 should be allowable over the cited prior art references.

Conclusion

In view of the foregoing, entry of this amendment and the allowance of this application with claims 1-10 are respectfully solicited.

In regard to the claims amended herein and throughout the prosecution of this application, it is submitted that these claims, as originally presented, are patentably distinct over the prior art of record, and that these claims were in full compliance with the requirements of 35 U.S.C. §112. Changes that have been made to these claims were not made for the purpose of patentability within the meaning of 35 U.S.C. §§101, 102, 103 or 112. Rather, these changes

were made simply for clarification and to round out the scope of protection to which Applicant is entitled.

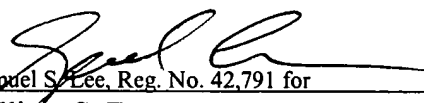
In the event that additional cooperation in this case may be helpful to complete its prosecution, the Examiner is cordially invited to contact Applicant's representative at the telephone number written below.

The Commissioner is hereby authorized to charge any insufficient fees or credit any overpayment associated with the above-identified application to Deposit Account 50-0320.

Respectfully submitted,

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